CLAIMS

What is claimed is:

1. A user equipment (UE) having a transmission power control for a wireless communication system in which user data is processed as a multirate signal having a rate N(t) where N(t) is a function time, in which the user data signal having rate N(t) is converted into a transmission data signal having a faster rate M(t) for transmission and in which the transmission power is adjusted by applying a scale factor in response to step up/down data, comprising:

a UE transmitter having:

a processor which computes a scale factor as a function of N(t)/M(t) ,

a data signal rate convertor which converts user data signals having rate N(t) into transmission data signals having a faster rate M(t) by repeating selected data bits whereby the energy per bit to noise spectrum density ratio is increased in transmission data signals which it transmits, and

a combiner which combines the computed scale factor with the transmission data signals for transmission by the UE.

2. The UE of claim 1 wherein the transmitter processor computes the scale factor based on up/down data received from a station to which the UE is transmitting and $\sqrt{(N(t)/M(t))}$.

3. A method of controlling UE transmitter power in a wireless communication system in which user data is processed as a multirate signal having a rate N(t) where N(t) is a function of time, in which the user data signal having rate N(t) is converted into a transmission data signal having a faster rate M(t) for transmission and in which transmitter power is controlled by applying a scale factor comprising:

converting user data signals having rate N(t) into transmission data signals having a faster rate M(t) by repeating selected data bits whereby the energy per bit to noise spectrum density ratio is increased in transmission data signals which it transmits;

computing the scale factor as a function of N(t)/M(t); and

combining the computed scale factor with the transmission data signals for transmission by the UE.

4. The method of claim 3 wherein the scale factor is computed based on up/down data received from a station to which the UE is transmitting and $\sqrt{(N(t)/M(t))}$.

5. A base station having a transmission power control for a wireless communication system in which user data is processed as a multirate signal having a rate N(t) where N(t) is a function time, in which the user data signal having rate N(t) is converted into a transmission data signal having a faster rate M(t) for transmission and in which the transmission power is adjusted by applying a scale factor in response to step up/down data, comprising:

a base station transmitter having:

a processor which computes a scale factor as a function of N(t)/M(t) ,

a data signal rate convertor which converts user data signals having rate N(t) into transmission data signals having a faster rate M(t) by repeating selected data bits whereby the energy per bit to noise spectrum density ratio is increased in transmission data signals which it transmits, and

a combiner which combines the computed scale factor with the transmission data signals for transmission by the base station.

6. The base station of claim 4 wherein the transmitter processor computes the scale factor based on up/down data received from a station to which the base station is transmitting and $\sqrt{(N(t)/M(t))}$.

7. A method of controlling base station transmitter power in a wireless communication system in which user data is processed as a multirate signal having a rate N(t) where N(t) is a function of time, in which the user data signal having rate N(t) is converted into a transmission data signal having a faster rate M(t) for transmission and in which transmitter power is controlled by applying a scale factor comprising:

converting user data signals having rate N(t) into transmission data signals having a faster rate M(t) by repeating selected data bits whereby the energy per bit to noise spectrum density ratio is increased in transmission data signals which it transmits;

computing the scale factor as a function of N(t)/M(t); and

combining the computed scale factor with the transmission data signals for transmission by the base station.

8. The method of claim 7 wherein the scale factor is computed based on up/down data received from a station to which the base station is transmitting and $\sqrt{(N(t)/M(t))}$.